

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) An air/fuel ratio control apparatus for an internal combustion engine as is applied to the internal combustion engine, having:
 - a catalyst which is disposed in an exhaust passage of the internal combustion engine;
 - an upstream-side air/fuel ratio sensor which is disposed in a part of the exhaust passage as lies in an upstream of the catalyst;
 - a downstream-side air/fuel ratio sensor which is disposed in a part of the exhaust passage as lies in a downstream of the catalyst; and
 - fuel injection means for injecting fuel in compliance with an instruction;the air/fuel ratio control apparatus comprising:
 - command basic-fuel-injection-quantity acquisition means for acquiring a fuel quantity for obtaining a target air/fuel ratio, as a command basic fuel injection quantity, from an in-cylinder intake air quantity which is estimated on the basis of a running state of the internal combustion engine;
 - main-feedback-correction-magnitude calculation means for calculating a main feedback correction magnitude on the basis of a value obtained after a value which is based on a difference between an output value of the upstream-side air/fuel ratio sensor and a predetermined upstream-side target value has been subjected to predetermined high-pass filtering, or a value obtained after the output value of the upstream-side air/fuel ratio sensor has been subjected to predetermined high-pass filtering;

sub-feedback-correction-magnitude calculation means for calculating a sub-feedback correction magnitude on the basis of an output value of the downstream-side air/fuel ratio sensor and a predetermined downstream-side target value;

command basic-fuel-injection-quantity correction means for correcting the command basic fuel injection quantity so that a fuel quantity which the fuel injection means actually injects when it has received the injection instruction of the fuel of the command basic fuel injection quantity may become a quantity which is required for making an actual air/fuel ratio of a mixture to be fed into the engine, the target air/fuel ratio;

command final-fuel-injection-quantity calculation means for calculating a command final fuel injection quantity in such a way that the corrected command basic fuel injection quantity is corrected by the main feedback correction magnitude and the sub-feedback correction magnitude; and

air/fuel ratio control means for feedback-controlling the air/fuel ratio of the mixture to be fed into the engine, in such a way that the injection instruction of the fuel of the command final fuel injection quantity is given to the fuel injection means, wherein

said command basic-fuel-injection-quantity correction means is configured so as to calculate a parameter value for correcting the command basic fuel injection quantity, on the basis of the output value of the upstream-side air/fuel ratio sensor, the command final fuel injection quantity, the target air/fuel ratio, and the command basic fuel injection quantity, and to correct the command basic fuel injection quantity by using the parameter value.

2. (Canceled).

3. (Previously Presented) An air/fuel ratio control apparatus for an internal combustion engine as defined in claim 1, wherein:

the parameter value for correcting the command basic fuel injection quantity as is calculated by said command basic-fuel-injection-quantity correction means has been subjected to predetermined low-pass filtering.

4. (Currently Amended) An air/fuel ratio control apparatus for an internal combustion engine as defined in claim 1 ~~or claim 3~~, further comprising:

delay-time acquisition means for acquiring a delay time which is involved since the injection instruction of the fuel until an air/fuel ratio of exhaust gas based on combustion of the fuel injected in compliance with the injection instruction appears as the output value of the upstream-side air/fuel ratio sensor; wherein:

said command basic-fuel-injection-quantity correction means is configured so as to use a value concerning the injection instruction at a time preceding the delay time, as at least the command final fuel injection quantity, in calculating the parameter value for correcting the command basic fuel injection quantity.

5. (Original) An air/fuel ratio control apparatus for an internal combustion engine as defined in claim 4, wherein:

said delay-time acquisition means is configured so as to alter the delay time in accordance with a running state of the internal combustion engine.

6. (Currently Amended) An air/fuel ratio control apparatus for an internal combustion engine as defined in ~~any of claims 1, 3 through 5~~ claim 1, further comprising:

storage means for storing the parameter value for correcting the command basic fuel injection quantity as has been calculated by said command basic-fuel-injection-quantity correction means.

7. (New) An air/fuel ratio control apparatus for an internal combustion engine as defined in claim 3, further comprising:

delay-time acquisition means for acquiring a delay time which is involved since the injection instruction of the fuel until an air/fuel ratio of exhaust gas based on combustion of the fuel injected in compliance with the injection instruction appears as the output value of the upstream-side air/fuel ratio sensor; wherein:

said command basic-fuel-injection-quantity correction means is configured so as to use a value concerning the injection instruction at a time preceding the delay time, as at least the command final fuel injection quantity, in calculating the parameter value for correcting the command basic fuel injection quantity.

8. (New) An air/fuel ratio control apparatus for an internal combustion engine as defined in claim 7, wherein:

said delay-time acquisition means is configured so as to alter the delay time in accordance with a running state of the internal combustion engine.

9. (New) An air/fuel ratio control apparatus for an internal combustion engine as defined in claim 3, further comprising:

storage means for storing the parameter value for correcting the command basic fuel injection quantity as has been calculated by said command basic-fuel-injection-quantity correction means.

10. (New) An air/fuel ratio control apparatus for an internal combustion engine as defined in claim 4, further comprising:

storage means for storing the parameter value for correcting the command basic fuel injection quantity as has been calculated by said command basic-fuel-injection-quantity correction means.

11. (New) An air/fuel ratio control apparatus for an internal combustion engine as defined in claim 5, further comprising:

storage means for storing the parameter value for correcting the command basic fuel injection quantity as has been calculated by said command basic-fuel-injection-quantity correction means.

12. (New) An air/fuel ratio control apparatus for an internal combustion engine as defined in claim 7, further comprising:

storage means for storing the parameter value for correcting the command basic fuel injection quantity as has been calculated by said command basic-fuel-injection-quantity correction means.

13. (New) An air/fuel ratio control apparatus for an internal combustion engine as defined in claim 8, further comprising:

storage means for storing the parameter value for correcting the command basic fuel injection quantity as has been calculated by said command basic-fuel-injection-quantity correction means.